

THE CLAIMS

What is claimed:

- 5 1. A piezoelectric ignition mechanism comprising:
first and second body members moveable with respect to one another
between a first position and a second position;
a piezoelectric element associated with one of the body members;
a plexor member associated with one of the body members; and
10 an engagement portion associated with one of the body members;
wherein in the first position the plexor member is releasably retained at a
distance from the piezoelectric element, and upon movement of the first and second body
members toward the second position, the plexor member is released and driven to impact
the piezoelectric element, and the engagement portion is configured and dimensioned to
15 provide resistance against movement of the body members toward the second position.
2. The piezoelectric ignition mechanism of claim 1, wherein one of the body
members defines a retaining surface for releasably retaining the plexor member at a distance
from the piezoelectric element, and the engagement portion resists release of the plexor
20 member from the retaining surface.
3. The piezoelectric ignition mechanism of claim 2, wherein the engagement
portion is disposed on the retaining surface.
- 25 4. The piezoelectric ignition mechanism of claim 2, wherein:
the plexor member defines a lug portion;
the plexor member is rotatable with respect to the first and second body
members;
rotation of the plexor member with respect to the first and second body
30 members causes the lug portion to be released from the retaining surface; and
the engagement portion is configured and dimensioned to resist release of the
lug portion from the retaining surface.
5. The piezoelectric ignition mechanism of claim 4, wherein the engagement
35 portion includes a curved surface that at least partially surrounds the lug portion.

6. The piezoelectric ignition mechanism of claim 4, wherein the engagement portion includes a saw-tooth shaped portion.

5 7. The piezoelectric ignition mechanism of claim 4, wherein the engagement portion is resilient.

8. The piezoelectric ignition mechanism of claim 2, wherein:
the plexor member defines a lug portion;
one of the body members defines a ramp surface;
10 the ramp surface is configured and dimensioned to contact the lug portion and release the lug portion from the retaining surface upon movement of the first and second body members toward the second position; and
the engagement portion is on the ramp surface.

15 9. The piezoelectric ignition mechanism of claim 8, wherein:
the plexor member is rotatable with respect to the first and second body members;
rotation of the plexor member with respect to the first and second body members causes the lug portion to be released from the retaining surface; and
20 the engagement portion is configured and dimensioned to resist release of the lug portion from the retaining surface.

10. The piezoelectric ignition mechanism of claim 9, wherein the engagement portion includes a curved surface that at least partially surrounds the lug portion.
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11. The piezoelectric ignition mechanism of claim 9, wherein the engagement portion includes a saw-tooth shaped portion.

12. The piezoelectric ignition mechanism of claim 9, wherein the engagement
30 portion is resilient.

13. The piezoelectric ignition mechanism of claim 8, wherein one of the body members further defines a track substantially adjacent to the retaining surface, and upon release of the lug portion from the retaining surface, the lug slides in the track as the plexor
35 member is driven toward the piezoelectric element.

14. The piezoelectric ignition mechanism of claim 1, further comprising a spring for biasing the plexor member toward the piezoelectric element.

15. The piezoelectric ignition mechanism of claim 1, used to create a spark in a lighter.

16. The piezoelectric ignition mechanism of claim 1, used to create a spark in a utility lighter having a gas outlet disposed at an end of an extended-wand.

10 17. A piezoelectric ignition mechanism comprising:

first and second body members moveable with respect to one another between a first position and a second position, one of the body members defining a track and a retaining surface substantially adjacent the track, the retaining surface having an engagement portion;

15 a piezoelectric element disposed on one of the body members; and a plexor member resiliently biasable toward the piezoelectric element, the plexor member having at least one lug portion;

wherein when the body members are in the first position, the lug portion is retained by the retaining surface and the plexor member is resiliently biasable toward the piezoelectric element, and when the first and second members are moved a predetermined distance toward the second position, the engagement portion resists release of the lug portion from the retaining surface.

18. The piezoelectric ignition mechanism of claim 17, wherein the lug portion cooperates with the engagement portion to resist movement of the body members toward the second position.

19. The piezoelectric ignition mechanism of claim 17, wherein the engagement portion includes a curved surface that at least partially surrounds the lug portion.

20. The piezoelectric ignition mechanism of claim 17, wherein the engagement portion includes a saw-tooth shaped portion.

21. The piezoelectric ignition mechanism of claim 17, wherein the engagement portion is resilient.

22. The piezoelectric ignition mechanism of claim 17, further comprising a spring for biasing the plexor member toward the piezoelectric element.

23. The piezoelectric ignition mechanism of claim 17, used to create a spark in a
5 lighter.

24. The piezoelectric ignition mechanism of claim 17, used to create a spark in a utility lighter having a gas outlet disposed at an end of an extended-wand.

10 25. A piezoelectric ignition mechanism comprising:
first and second body members moveable with respect to one another
between a first position and a second position, one of the body members defining a track
and a retaining surface substantially adjacent the track, and the other one of the body
members defining an engagement portion;
15 a piezoelectric element disposed on one of the body members; and
a plexor member resiliently biasable toward the piezoelectric element, the
plexor member having at least one lug portion;
wherein when the body members are in the first position, the lug portion is
retained by the retaining surface and the plexor member is resiliently biasable toward the
20 piezoelectric element, and when the first and second members are moved a predetermined
distance toward the second position, the engagement portion resists release of the lug
portion from the retaining surface.

26. The piezoelectric ignition mechanism of claim 25, wherein the lug portion
25 cooperates with the engagement portion to resist movement of the body members toward
the second position.

27. The piezoelectric ignition mechanism of claim 25, wherein the other one of
the body members defines a ramp surface for releasing the lug portion from the retaining
30 surface, and the engagement portion is disposed on the ramp surface.

28. The piezoelectric ignition mechanism of claim 25, wherein the engagement
portion includes a curved surface that at least partially surrounds the lug portion.

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29. The piezoelectric ignition mechanism of claim 25, wherein the engagement portion includes a saw-tooth shaped portion.

5 30. The piezoelectric ignition mechanism of claim 25, wherein the engagement portion is resilient.

31. The piezoelectric ignition mechanism of claim 25, further comprising a spring for biasing the plexor member toward the piezoelectric element.

10 32. The piezoelectric ignition mechanism of claim 25, used to create a spark in a lighter.

15 33. The piezoelectric ignition mechanism of claim 25, used to create a spark in a utility lighter having a gas outlet disposed at an end of an extended-wand.

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